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Kopetz Hermann

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EXAMINER

HOM, SHICK C

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/071,991	<b>Applicant(s)</b> HERMANN ET AL.	
	<b>Examiner</b> Shick C. Hom	<b>Art Unit</b> 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 2/8/02 & 4/23/02.  
 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
 6) ☒ Claim(s) 1-10 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☒ The drawing(s) filed on 08 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to because in Figs. 1-6, a brief descriptive label must be provided for each of the numbered blocks, e.g. in Fig. 1, computers 111-114, distributor unit 101, 102. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

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informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Information Disclosure Statement***

2. The information disclosure statement filed 6/18/02 fails to comply with 37 CFR 1.98(a)(2), which requires the publication date of each non-patent literature, i.e. no publication date have been recited for the Christopher Temple reference. It has been placed in the application file, but the information referred to therein has not been considered.

#### ***Claim Objections***

3. Claims 3 and 5 are objected to because of the following informalities: In claim 3 line 2, the words "a synchronized" and "an unsynchronized" seem to refer back to the "synchronized" and the "unsynchronized" recited in claim 2 lines 3 and 2, respectively. If this is true, it is suggested changing "a synchronized" and "an unsynchronized" to ---the synchronized--- and ---the unsynchronized---. Likewise, in claim 5 line 2, delete "an unsynchronized" to ---the unsynchronized---. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. Claims 1-8 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 line 1 which recite "the fail-silent property in the time domain" lacks clear antecedent basis because no fail-silent property and no time domain have been previously recited in the claim and therefore the limitation is not clearly understood. Likewise, claim 1 lines 5-6 which recite "the corresponding connections" and "the communication channels" lack clear antecedent basis. In claim 1 line 9, claims 2-8 lines 1-2 which recite "the at least one distributor unit" lacks clear antecedent basis. Further, claim 1 which merely seems to recite a method for enforcing the fail-silent property in the time domain of remote communication computers per se is not clear as to what step of the method is being claimed since no step or any active verb is recited in the claim. In claim 10 line 2 which recite "the time domain" lacks clear antecedent basis. Claims 2-8 are rejected under 35 U.S.C. 112, second paragraph because they depend from rejected claim 1.

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5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1 and 9 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 5,694,542.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the application's claims 1 and 9 merely broaden the scope of the U.S. Patent No. 5,694,542 claim 1 by eliminating the steps of providing a CRC field in each message sent, performing a CRC check on the

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incoming message, and detecting a mutilated message. It has been held that the omission of a element and its function is an obvious expedient if the remaining elements perform the same function as before. In re Karlson, 136 USPQ (CCPA). Also note Ex parte Rainu, 168 USPQ 375 (Bd. App. 1969); omission of a reference element whose function is not needed would be obvious to one skilled in the art.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 4, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Bahl (6,618,363).

Regarding claims 1, 9:

Bahl discloses a method for enforcing the fail-silent property in the time domain of remote communication computers of a fault-tolerant distributed computer system (see Fig. 2 and col. 5 lines 52-65 which recite a network connection of remote

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communication computers; col. 9 line 49 to col. 10 line 9 which recite the because of delay restrictions, ensuring only successful request transmissions if a slot can be provided clearly anticipate the fail-silent property in the time domain, and col. 10 lines 36-55 which recite error correcting codes being added to each packet clearly anticipate the fault-tolerant distributed computer system), in which a plurality of remote computers are connected via a distributor unit, each remote computer has an independent communications control unit with the corresponding connections to the communication channels (see Fig. 3 and col. 6 lines 25-67 which recite the switching center that manages the channels and the station controller clearly anticipate the distributor unit and communications control unit), and the access to the communication channels occurs by a cyclical time-division multiple access method, wherein the at least one distributor unit makes sure, by virtue of the correct transmission behavior of one of said plurality of remote computers that is known a priori by it, that said known remote computer can only send successfully to others of said plurality of remote computers within its statically assigned time slice (see col. 1 lines 37-62 which recite the use of TDMA schemes and col. 9 lines 5-30 which recite of statically assigned slots being made concurrently with connection establishment request



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clearly anticipate communication channels occurs by a cyclical time-division multiple access method wherein remote computer can only send successfully to others of said plurality of remote computers within its statically assigned time slice).

Regarding claim 4:

Bahl discloses wherein, in said at least one distributor unit, the content of arriving messages is evaluated as an additional fault recognition (see col. 8 line 49 to col. 9 line 4 which recite the network router for notifying the sources of the success or failure of the connection request clearly reads on evaluation of fault).

Regarding claim 8:

Bahl discloses wherein said at least one distributor unit is connected via dedicated communication channels to at least one maintenance computer, which performs a parameterization of the at least one distributor unit and monitors the correct functioning of the at least one distributor unit during operation (see col. 6 lines 25-67 which recite the switching center that manages the channels and col. 10 lines 36-55 which recite the router monitoring the reservation requests clearly reads on the maintenance computer).

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***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 2-3, 5-7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bahl (6,618,363) in view of Miller et al. (4,860,285).

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For claims 2-3, 5-7, and 10, Bahl discloses the system and method described in paragraph 7 of this office action. Bahl disclose all the subject matter of the claimed invention with the exception of wherein the at least one distributor unit switches from an "unsynchronized" state, in which receiving is possible via all input ports, after receiving a correct message or when no correct message has been received since initialization, to a "synchronized" state, in which receiving is only possible via one input port during the time slice statically assigned to this input port as in claims 2, 3, 10; wherein the at least one distributor unit assumes an "unsynchronized" state after "power-up" as in claim 5; wherein the at least one distributor unit converts arriving physical signals into digital form, using a local clock of the distributor unit, and converts said digital form signals back into the physical form before sending them as in claim 6; and wherein said at least one distributor unit comprises a plurality of distributor units that are connected to each other via communication channels in order to enable a power-up and clock synchronization of one of said plurality of distributor units, even when no messages arrive at connections of said one of said plurality of distributor units as in claim 7.

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Miller et al. from the same or similar fields of endeavor teach that it is known to provide wherein the at least one distributor unit switches from an "unsynchronized" state, in which receiving is possible via all input ports, after receiving a correct message or when no correct message has been received since initialization, to a "synchronized" state, in which receiving is only possible via one input port during the time slice statically assigned to this input port (see col. 11 lines 45-58 and col. 14 lines 45-52 which recite moving from the unsynchronized state to the synchronized state) as in claims 2, 3, 10; wherein the at least one distributor unit assumes an "unsynchronized" state after "power-up" and enabling a power-up and clock synchronization of one of said plurality of distributor units, even when no messages arrive at connections of said one of said plurality of distributor units (see col. 3 lines 5-22 which recite the adjusting the clock after power-up) as in claims 5, 7; and wherein the at least one distributor unit converts arriving physical signals into digital form, using a local clock of the distributor unit, and converts said digital form signals back into the physical form before sending them (see col. 3 lines 23-28 which recite converting the digital form signal to analog form clearly reads on converting the digital form signals into the physical form) as in claim 6. Thus, it

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would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide wherein the at least one distributor unit switches from an "unsynchronized" state, in which receiving is possible via all input ports, after receiving a correct message or when no correct message has been received since initialization, to a "synchronized" state, in which receiving is only possible via one input port during the time slice statically assigned to this input port; wherein the at least one distributor unit assumes an "unsynchronized" state after "power-up" and enabling a power-up and clock synchronization of one of said plurality of distributor units, even when no messages arrive at connections of said one of said plurality of distributor units; and wherein the at least one distributor unit converts arriving physical signals into digital form, using a local clock of the distributor unit, and converts said digital form signals back into the physical form before sending them as taught by Miller et al. in the communications method and system of Bahl. The at least one distributor unit switches from an "unsynchronized" state, in which receiving is possible via all input ports, after receiving a correct message or when no correct message has been received since initialization, to a "synchronized" state, in which receiving is only possible via one input port during the

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time slice statically assigned to this input port; wherein the at least one distributor unit assumes an "unsynchronized" state after "power-up" and enabling a power-up and clock synchronization of one of said plurality of distributor units, even when no messages arrive at connections of said one of said plurality of distributor units; and wherein the at least one distributor unit converts arriving physical signals into digital form, using a local clock of the distributor unit, and converts said digital form signals back into the physical form before sending them can be implemented by connecting the master/slave synchronizer including the digital to analog converter of Miller et al. to the communication network of Bahl. The motivation for using the master/slave synchronizer including the digital to analog converter as taught by Miller et al. in the communications method and system of Bahl being that it provides the added features of being able to synchronize signals routed between any of the devices in the network including analog signals.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Lyle et al. disclose a system and method for analyzing protocol streams for a security-related event.

Kopetz discloses a loosely coupled distributed computer system with node synchronization for precision in real time applications.

Jaffe et al. disclose a method and apparatus for scheduling access to a CSMA communication medium.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick C. Hom whose telephone number is 571-272-3173. The examiner can normally be reached on Monday to Friday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH

DANG TON  
PRIMARY EXAMINER